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Export Markets For Alberta Peat Moss. 1



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EXPORT MARKETS FOR ALBERTA
PEAT MOSS

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EXPORT MARKETS FOR ALBERTA

PEAT MOSS

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June 1973,

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FOREWORD

The specific purpose of this report is to analyze the current and emerging markets for Alberta Peat Moss. The future expansion of this industry will depend on the ability of Alberta producers to market their product in new geographic areas and to research and develop new uses for the resource.

This report was prepared with assistance from:
Statistics Canada; Canada Department of Industry, Trade and Commerce; Minnesota Department of Iron Range Resources and Rehabilitation; U.S. Department of the Interior; and Alberta Peat Moss Producers.



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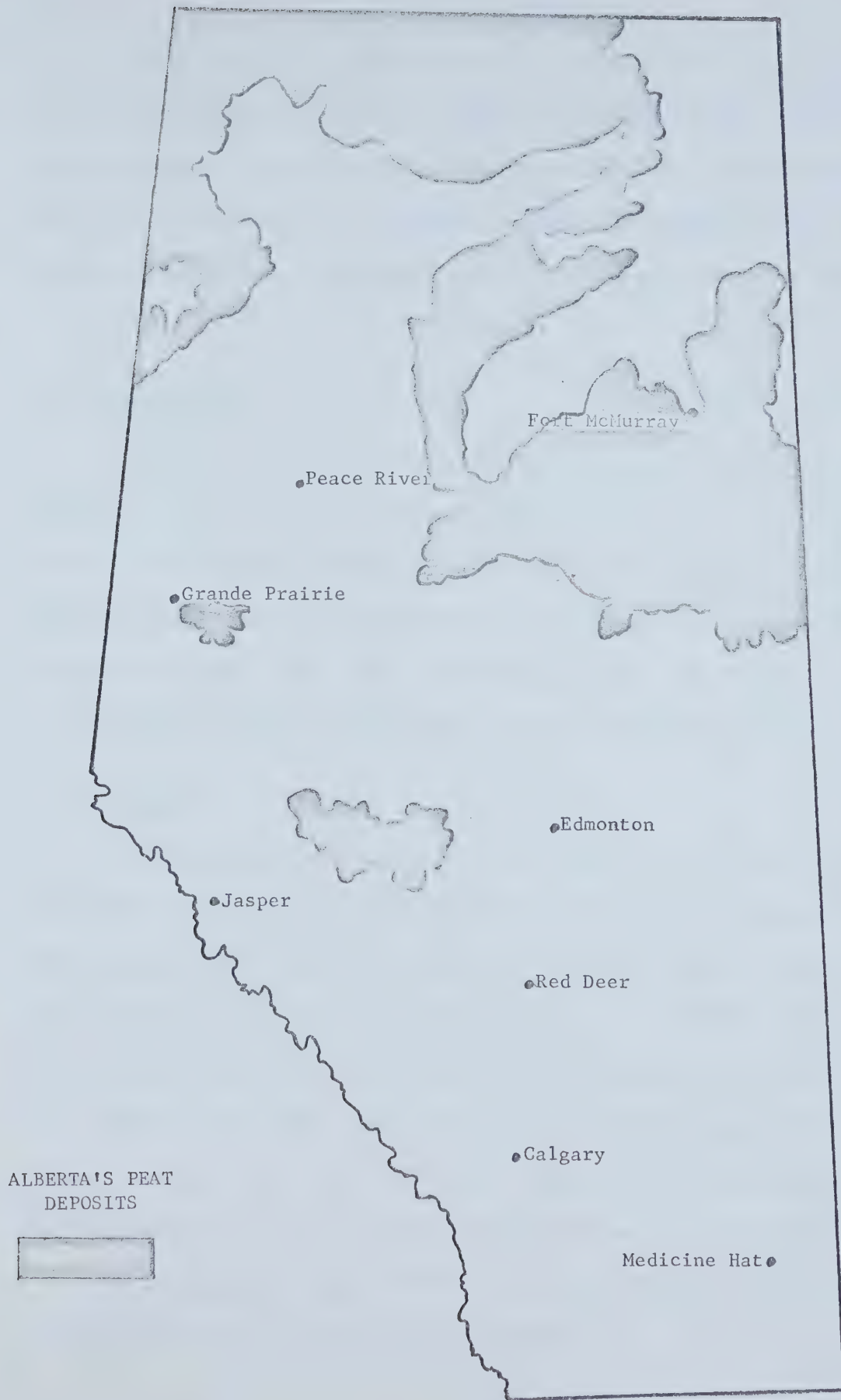
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SUMMARY AND CONCLUSIONS

1. Canada ranks third among nations in terms of the land area containing peat deposits. Canadian deposits cover over 27,000 square miles or nearly double the area covered by United States reserves.
2. Canada ranks eighth among producing nations in terms of peat output, fifth when fuel peat is excluded.
3. Canadian production of peat amounted to 326,000 tons worth \$10.4 million in 1971.
4. Alberta produced 7,000 tons with a sales value of \$196,000 in 1971.
5. Canadian peat accounts for about 90 per cent of U.S. imports which in turn supply about one half of domestic demand.
6. Canada exported 274,350 tons to the U.S. in 1971.
7. Alberta exported 6,850 tons worth \$360,000 in 1970 according to Alberta Bureau of Statistics estimates.
8. The market for Alberta peat in Japan is undeveloped at this time but deserves attention from Alberta producers.
9. An ambitious program to market Alberta peat with an identifying label is necessary to inform potential consumers in the U.S. of its coverage properties.



I. WORLD'S RESERVES

There is little accurate information on the world's peat reserves, but a Soviet estimate in 1963 placed the volume at 288 billion tons. The U.S.S.R. ranked first with 60 per cent followed by Finland and Canada with 9 per cent each and the U.S. with 5 per cent. These world deposits covered an area of about 586,000 square miles. Their distribution by country is shown in Table 1,

A. Soviet Union

The peat resources of the Soviet Union are estimated to total 158 billion tons in volume, in more than 50,000 deposits covering an area of about 280,000 square miles. The occurrences of deposits vary widely throughout the nation with the greatest concentration in the northwest and western Siberia with fewer deposits in the milder regions to the south. More than 60 per cent, or over 90 billion tons are found in the lowlands of western Siberia.

B. Finland

Finland has proven bogs covering an area of 39,000 square miles. More than 5,800 square miles have been drained with about 2,300 square miles in agricultural uses. About 32 per cent of the total land area contains bogs. In the north more than 60 per cent of the total land area is covered by peat while in the south less than 10 per cent is covered. Pine bogs account for about 42 per cent of the bog areas while spruce bogs, open sphagnum bogs, and open moss bogs make up another 21 per cent, 25 per cent, and 4 per cent respectively. About 23,000 square miles of bogs are forested with 46 per cent containing productive tree stands. Estimates suggest that more than 3,900 square miles of bogs in northern Finland are capable of being cultivated.

TABLE 1

PEAT RESOURCES OF THE WORLD

<u>COUNTRY</u>	<u>% OF WORLD'S RESOURCES</u>
U. S. S. R.	60.8
Finland	9.5
Canada	9.1
U. S. A.	5.0
Germany (East and West)	3.5
Great Britain and Ireland	3.5
Sweden	3.4
Poland	2.3
Indonesia	0.9
Norway	0.7
Cuba	0.3
Japan	0.2
Denmark	0.08
Italy	0.08
France	0.08
All Others	0.56

Source: A. S. Olenin, "The Peat Stock of the U. S. S. R. " in Peat Resources of the World. Third International Peat Congress, Quebec City, 1968.

C. Canada

According to the Department of Energy, Mines, and Resources, Canada's reserves are to be found in all the provinces, covering an area of over 27,000 square miles. This does not include regions classified as muskeg. Many of the peat bogs are located in uninhabited northern areas far from transportation networks and markets. A systematic evaluation of this resource has been undertaken and over 430 square miles of peat bogs have been mapped and surveyed. These are estimated to contain over 225 million tons of peat. Separate estimates for Alberta made by researchers at Sherbrooke University place Alberta's exploitable reserves as covering an area of 31,000 square miles.

Attempts have been made to develop the peat resources of central Canada on varying scales since the middle 1800's. At that time most peat was utilized for fuel. The availability of superior fuels in Canada now precludes the economic exploitation of our deposits for fuel. In the future, as now, peat will be mainly used for horticultural purposes. Known reserves are adequate for thousands of years at current rates of exploitation. The extent and rate of development will depend on technological and economic conditions.

D. United States

The peat resources of the U.S. have been extensively surveyed and known reserves are documented by the U.S. Geological Survey at 14 billion tons*. The reserves are virtually untouched and only 6.3 million tons, less than 0.05 per cent of the total, have been commercially exploited. The resources are widely distributed over 34 states, although 90 per cent of the total is in Minnesota, Michigan, Wisconsin, and Florida, and 75 per cent in the first three. More than

*The expression "ton" and "short ton" are used synonymously in this report.

half of the U.S. peat is in Northern Minnesota where known deposits extend over 7,800 square miles and the recoverable reserve is estimated at 7 billion tons.

II. MAJOR PRODUCERS

In 1965, the world's production of peat was placed at over 205 million tons. By 1970, world production of peat (including fuel peat) was approximately 217 million tons, down from 219 million the year before. Totals for agricultural use for 1970 are given in Table 2, in order of importance.

A. Soviet Union

The Soviet Union continued to be the largest producer with an estimated output of 206 million tons in 1970, or 95 per cent of the world total. About one third of the Soviet production is used for fuel and two thirds used for agricultural purposes, including general soil improvement and the manufacture of fertilizer. Most of the fuel peat is used for generating electric power, although considerable quantities are converted into briquets which are subsequently used for both domestic and industrial heating.

B. Ireland

Ireland ranked second in total peat production in 1970 with an output of 7.6 million tons, but eleventh in agricultural peat at only 66,000 tons. While this figure is very small in comparison with the U.S.S.R. peat did provide a substantial part of Ireland's energy requirements for power generation and household heating.

C. West Germany

West Germany ranked third in total peat output (second for agricultural peat) with an estimated production of 1.5 million tons. About one fourth of the German production is used for fuel, but this accounts for only a very minor part of her energy resources. There are about 150 peat factories in Germany, with total industry employment approximately 5,000.

TABLE 2

WORLD PRODUCTION OF PEAT, BY COUNTRIES,
AGRICULTURAL USE, 1970

<u>COUNTRY</u>	<u>QUANTITY</u> (Thousands Short Tons)
U. S. S. R.	143,300
Germany, West	1,110
United States	517
Netherlands	440
Canada	317
Finland	158
Sweden	110
France	80
Japan	80
Hungary	72
Ireland	66
Israel	22
Norway	13
Korea, Republic of	10
TOTAL	146,295

Source: U. S. Department of the Interior, Bureau of
Mines Minerals Yearbook, 1970.

D. United States

1. Overview

Peat production in the U.S. amounted to 516,825 tons in 1970, or 10 per cent less than the output recorded in 1969. During this period, production declined in 12 states and the number of active plants decreased by six. Most of the production loss was the result of the smaller output in Florida, Illinois, Michigan, and Washington. Commercial sales in the U.S. declined 7 per cent in quantity, and 15 per cent in value as the average price F.O.B. plant decreased \$1.08 per ton to \$11.38 in 1970. The value of sales was particularly influenced by the decline in Michigan peat prices from \$14.62 per ton in 1969 to \$11.36 per ton in 1970. The 10 per cent decrease in production in 1970 resulted mainly from the reduced output of reed-sedge peat for soil improvement purposes. Twenty-four states produced peat in 1970 compared with 23 in 1969, North Dakota being the addition. Michigan remained the principal producer with nearly one third of the output. Illinois, Pennsylvania, Florida, New Jersey, Colorado and Indiana followed in that order.

At the same time the number of plants decreased from 128 to 122, and average production per plant declined to 4,236 tons. About three fourths of the plants had outputs smaller than the industry average. Only 28 plants had production in excess of 5,000 tons and only 4 plants produced more than 25,000 tons. These facts are summarized in Table 3. About one half of the production was reed-sedge peat while the remainder was equally divided between moss peat and humus. More than three fourths of the output was processed by shredding and/or artificial drying before it was sold.

Peat is used exclusively for agricultural and horticultural purposes in the U.S. The largest single market is the individual home owner who uses it as

TABLE 3

RELATIVE SIZE OF PEAT OPERATIONS, U.S., 1969-1970

SIZE	1969			1970		
	ACTIVE PLANTS		PRODUCTION	ACTIVE PLANTS		PRODUCTION
	NUMBER	% TOTAL	SHORT TONS	NUMBER	% TOTAL	SHORT TONS
Under 500 tons	29	22.7	5,245	32	26.2	6,872
500 to 999 tons	17	13.3	11,424	16	13.1	10,724
1,000 to 4,999 tons	51	39.8	118,210	46	37.7	101,048
5,000 to 14,999 tons	22	17.2	185,846	18	14.8	141,174
15,000 to 24,999 tons	5	3.9	88,320	6	4.9	100,511
Over 25,000 tons	4	3.1	163,077	4	3.3	156,496
TOTAL	128	100.0	572,122	122	100.0	516,825

Source: U.S. Department of the Interior, Bureau of Mines Yearbook, 1970.

a soil conditioner in preparing and maintaining lawns, shrubbery and gardens. Most is retailed through garden, hardware and variety stores. The second largest group of users are the landscape contractors, golf courses and municipal, State and Federal Governments. Other uses for peat in the U.S. are as a packaging material for shrubs, flowers, and fragile materials. It is also used as a filler in mixed fertilizers and in mushroom and tobacco seedbeds. Some fibrous peat is used for bedding stock and in stables and poultry houses. Producers' sales were about evenly divided between the bulk and the packaged product. Tables 4 through 6 summarize this information. In almost every case, alternate materials can be substituted for peat. For soil improvement (mulch), straw, the bark, and other fibrous materials are substitutes for peat depending on the supply and price.

2. Regional Disparities

Some individual state statistics might be of interest to Alberta producers contemplating sales into adjacent areas of the U.S. The states of Montana, North Dakota and Idaho each have one producer and hence no data is available on output. Indications are that output is comparatively small in each of these states and confined to local and regional markets. Since these three border states are not densely populated, they do not constitute a major source of demand at this time. Farther afield in Colorado a major market emerges and the competition increases. The accompanying Table 7 shows that there were 15 active producers in Colorado in 1970 with a combined output of 34,240 short tons and sales of \$210,000. Colorado is second only to Michigan in number of producers, ranks fourth in output, and sixth in sales as a result of the relatively low value per ton, but consumption exceeds production. Some peat is now shipped to this area from Michigan and Minnesota.

TABLE 4

PRINCIPAL STATISTICS, U.S. PEAT MOSS PRODUCERS, 1967-1970

	<u>1967</u>	<u>1968</u>	<u>1969</u>	<u>1970</u>
Number of operations	131	135	128	122
Production..... short tons ..	617,172	618,995	572,122	516,825
Commercial sales ...short tons ..	619,687	619,161	565,760	525,603
Value of salesthousands ...	\$6,768	\$7,230	\$7,055	\$5,986
Average price per ton.....	\$10.92	\$11.68	\$12.47	\$11.39

Source: U.S. Department of the Interior, Bureau of Mines Minerals Yearbook,
1970

TABLE 5

RETAIL SALES OF PEAT, U.S., 1970, BY KINDS AND USES

USE	MOSS		REED-SEDGE		HUMUS	
	QUANTITY (Thousands Short Tons)	VALUE \$, 000	QUANTITY (Thousands Short Tons)	VALUE \$, 000	QUANTITY (Thousands Short Tons)	VALUE \$, 000
Bulk:						
Soil Improvement	57	487	73	735	63	394
Other Uses	16	90	10	123	39	269
TOTAL ¹	73	577	83	858	102	663
Packaged:						
Soil Improvement.....	49	847	179	2,180	29	394
Other Uses	3	71	3	184	5	211
TOTAL ¹	52	918	182	2,365	34	605
TOTAL:						
Soil Improvement	107	1,334	252	2,916	92	788
Other Uses	19	161	13	307	44	480
GRAND TOTAL ¹	126	1,495	265	3,223	136	1,268

1. Data may not add to totals shown because of independent rounding.

Source: U.S. Department of the Interior, Bureau of Mines Minerals Yearbook, 1970.

COMMERCIAL SALES OF PEAT, U.S., 1970, BY USES

USE	IN BULK		IN PACKAGES		TOTAL	
	QUANTITY (Thousands Short Tons)	VALUE \$, 000	QUANTITY (Thousands Short Tons)	VALUE \$, 000	QUANTITY (Thousands Short Tons)	VALUE \$, 000
Soil Improvement	193	1,616	257	3,421	450	5,038
Potting Soils	14	118	6	221	20	338
Packing Flowers, Shrubs, etc.....	40	298	2	37	42	336
Seed Inoculant	-	-	3	206	2	206
Mushroom Beds.....	3	29	(1)	(1)	3	29
Earthworm Culture	1	9	(1)	2	1	11
Mixed Fertilizers	6	27	-	-	6	27
TOTAL	258	2,098	268	3,888	526	5,986

(1) Data may not add to totals shown because of rounding.

Source: U.S. Department of the Interior, Bureau of Mines Minerals Yearbook, 1970

TABLE 7

PRODUCTION AND COMMERCIAL SALES OF PEAT, U.S., 1970, BY STATES

STATE	PRODUCTION		SALES		
	ACTIVE PLANTS	QUANTITY (Short Tons)	QUANTITY (Short Tons)	VALUE	
				TOTAL \$, 000	AVERAGE PER TON \$
California	3	9,792	9,792	W	W
Colorado	15 ¹	34,240	34,499	210	6.08
Florida	8	45,743	45,742	304	6.65
Georgia	1	432	432	W	W
Idaho	1	W	W	W	W
Illinois	6	W	W	W	W
Indiana	5	W	W	W	W
Iowa	2	W	W	W	W
Maine	3 ²	1,223	1,000	39	39.00
Maryland	2	4,588	3,633	47	12.94
Massachusetts	1 ¹	2,000	2,000	30	15.00
Michigan	20	156,699	166,950	1,896	11.36
Minnesota	8	13,948	13,377	335	25.04
Montana	1	W	W	W	W
New Jersey	4	45,260	45,260	557	12.30
New Mexico	1	500	500	7	13.00
New York	5	15,325	14,525	145	9.98
North Dakota	1	W	W	W	W
Ohio	11	6,357	6,357	95	14.94
Pennsylvania	11	49,284	43,793	517	11.81
South Carolina	1	W	W	W	W
Vermont	1	338	244	6	24.59
Washington	9	16,625	16,625	71	4.27
Wisconsin	2	1,581	1,650	W	W
TOTAL	122	516,825	525,603	5,986	11.39

W. Withheld to avoid disclosing individual company confidential data; included in total.

1. Excludes 1 plant which had sales, but no production.

2. Includes 1 plant which had production, but no sales

The Rocky Mountain region with no production in the adjacent states of Wyoming, Nebraska, Kansas, Oklahoma, Texas, Arizona, Utah and only a minor production of 500 short tons in New Mexico represents a potential market with a combined population of 23.8 million persons in 1970. Since the closest major producing states are either on the Pacific rim or in the eastern states, there should be a sizeable market for peat moss here that Alberta producers may be able to capture.

E. Canada

Canada ranked sixth among producing nations, (fifth for agricultural peat) with 1970 production estimated at 317,000 tons worth \$9.4 million. Production peaked in 1969 at 330,000 tons worth \$9.6 million, but was an estimated 326,000 tons valued at \$10.4 million in 1971 (see Table 8).

Quebec and British Columbia are still the leading producers. Alberta's output has remained fairly constant in the past five years ranging between 7,000 and 10,000 tons annually. The value of production for Alberta was \$117,000 in 1967 and an estimated \$196,000 in 1971 even though the production figures were essentially the same. Alberta continues to account for between 2 per cent and 3 per cent of the total quantity and value of peat production across Canada. Most of the activity in this Province takes place near Evansburg, west of Edmonton, with lesser activity northeast of Edmonton plus some in the Peace River region.

The number of establishments in Canada continued to increase from 56 in 1966 to 68 in 1968 while the number of employees declined from 1,107 to 1,040 over the same period. There were four active peat plants in Alberta in 1971. The output at Saskatchewan's only peat facility at Carrot River has been

PRINCIPAL STATISTICS OF THE PEAT INDUSTRY
CANADA 1966-1969

Year	Establishments No.	Employees No.	Salaries And Wages \$, 000	Cost of Fuel and Electricity At Works \$, 000	Cost Of Process Supplies And Containers \$, 000	Gross Value of Products Shipped During Year, Including Containers ¹ (f.o.b. works) ¹ \$, 000	Net Value Of Production ² \$, 000
1966	56	1107	3,379	368	2,977	9,773	6,373
1967	60	1148	3,696	412	3,221	11,531	7,924
1968	66	1172	4,203	473	3,489	12,826	8,855
1969	68	1040	3,956	508	3,941	12,515	8,106
1970	62	1071	4,215	550	3,707	13,689	9,163

1. Includes packing materials and containers

2. Gross selling value less cost of process supplies, containers, fuel and electricity

Source: Statistics Canada, "The Peat Industry", Annual.

increasing dramatically since 1969. That year production was estimated at 400 tons; by 1970 it was 4,000 tons; and by 1971 had surpassed Alberta's output, with a reported 9,000 tons (see Table 9).

TABLE 9

QUANTITY OF PRODUCTION (SHIPMENTS) OF PEAT MOSS,
CANADA, BY AREA, 1966 - 1971

	Quantity (tons) <u>'000</u>	Per Cent of Total Quantity <u>%</u>		Quantity (tons) <u>'000</u>	Per Cent of Total Quantity <u>%</u>
1966			1969		
Atlantic ¹	76	27	Atlantic	100	33
Quebec	117	41	Quebec	125	34
Ontario ²	23	8	Ontario	42	12
Alberta	7	2	Alberta	9	3
B.C.	62	22	B.C.	54	15
Total	285*		Total	330	
1967			1970(est)		
Atlantic	90	30	Atlantic	82	25
Quebec	107	33	Quebec	128	40
Ontario	24	8	Ontario	47	12
Alberta	7	2	Alberta	12	3
B.C.	53	18	B.C.	51	18
Total	280		Total	320	
1968			1971(est)		
Atlantic	88	30	Atlantic	85	28
Quebec	106	33	Quebec	130	40
Ontario	38	13	Ontario	45	14
Alberta	8	3	Alberta	7	2
B.C.	54	17	B.C.	50	15
Total	294		Total	326	

* Differences in totals due to rounding.

1. Nova Scotia and New Brunswick.

2. Including Manitoba and Saskatchewan

Source: Statistics Canada, "The Peat Industry", Annual.

III. FOREIGN MARKETS

Since Alberta and Canada export most of their peat moss, the dimensions of foreign trade are of concern to domestic producers. An examination of the American and Japanese markets follows, as both offer considerable potential to Alberta's producers.

A. United States

In the U.S., domestically produced peat has supplied about one half of domestic demand since the early 1960's. Prior to that, imports supplied a much higher proportion of U.S. demand. In the 1930's, imports were 60 per cent higher than domestic production with most coming from Germany and Sweden. During the war, supplies from these sources were cut off and the Canadian peat industry captured this portion of the American market. After the war, Canada continued to ship peat to the U.S. but West Germany resumed shipments. For the past twelve years Canada has supplied between 75 per cent and 90 per cent of total U.S. imports. U.S. imports for 1969 and 1970 are shown in Table 10.

Foreign peat entered the U.S. through 28 customs districts in 1970 as shown in Table 11, but most (83 per cent) was shipped through Ogdensburg and Buffalo, N.Y.; Detroit; St. Albans, Vermont; and Seattle. In 1970 the customs port in Great Falls, Montana cleared 3,287 tons of Canadian peat, while Pembina, North Dakota cleared 12,470 short tons and Seattle cleared 49,024 short tons. The largest quantity, 64,000 tons, was shipped through Ogdensburg. Shipments from Canada to the U.S. have fluctuated with a gradual upward trend. From 246,000 tons worth \$10.8 million in 1967, shipments peaked at 280,400 tons in 1969 for \$12.3 million, although the estimated level of

TABLE 10

U.S. IMPORTS OF PEAT MOSS, BY GRADES AND COUNTRIES, 1969 AND 1970

Country	Poultry and Stable Grade		Fertilizer Grade		Total	
	Quantity	Value	Quantity	Value	Quantity	Value
<u>1969</u>						
Canada	2,117	96	282,952	13,014	285,069	13,110
Denmark	26	1	-	-		
Germany, West	152	10	9,805	397	9,957	407
Ireland	40	2	1,293	67	1,333	69
Norway	-	-	11	8		
Poland	296	12	2,791	116	3,087	128
Portugal	-	-	49	3		
Sweden	-	-	327	18	327	18
United Kingdom	-	-	96	6	96	6
Other						
TOTAL	2,633	121	297,364	13,631	299,997	13,752
<u>1970</u>						
Belgium-Luxembourg	-	-	22	(1)		
Canada	1,679	94	267,944	12,792	269,623	12,886
Finland	7	(1)	-	-		
Germany, West	86	3	9,919	429	10,005	432
Ireland	4	3	960	46	964	49
Japan	-	-	30	2		
Mexico	-	-	24	1		
Norway	6	4	7	4		
Poland	-	-	1,950	88	1,950	88
Spain	-	-	7	5		
Sweden	-	-	449	22	449	22
United Kingdom	-	-	117	9	117	9
Other						
TOTAL	1,782	104	281,429	13,398	283,211	13,502

(1) Less than \$500.

Source: E. T. Sheridan, "Peat, Bureau of Mines Minerals Yearbook, U.S. Department of the Interior, 1970.

TABLE 11

U.S. IMPORTS OF PEAT MOSS IN 1970, BY GRADES AND CUSTOMS DISTRICT

Customs District	Poultry and Stable Grade		Fertilizer Grade		Total	
	Quantity (Short Tons)	Value \$, 000	Quantity (Short Tons)	Value \$, 000	Quantity (Short Tons)	Value \$, 000
Baltimore, Md.	6	4	1,293	55	1,299	59
Boston, Mass.	4	3	339	18	343	21
Bridgeport, Conn.	-	-	46	2	46	2
Buffalo, N. Y.	-	-	32,423	1,464	32,423	1,464
Charleston, S. C.	-	-	128	6	128	6
Detroit, Mich.	52	3	42,213	2,278	42,265	2,281
Duluth, Minn.	-	-	5,769	393	5,769	393
Great Falls, Mont.	-	-	8,287	418	8,287	418
Honolulu, Hawaii	7	(1)	38	3	45	3
Houston, Tex.	-	-	467	19	467	19
Los Angeles, Calif.	-	-	954	46	954	46
Miami, Fla.	-	-	444	21	444	21
Milwaukee, Wis.	-	-	16	(1)	16	(1)
Mobile, Ala.	-	-	1,935	92	1,935	92
New Orleans, La.	-	-	1,509	58	1,509	58
New York, N. Y.	-	-	1,884	90	1,884	90
Norfolk, Va.	-	-	950	35	950	35
Ogdensburg, N. Y.	10	1	64,340	2,820	64,350	2,821
Pembina, N. Dak.	1,418	82	11,061	493	12,479	575
Philadelphia, Pa.	30	2	599	24	629	26
Portland, Maine	13	1	6,661	378	6,674	379
Portland, Oreg.	-	-	126	8	126	8
St. Albans, Vt.	186	7	48,201	1,983	48,387	1,990
San Francisco, Calif.	56	1	202	9	258	10
San Juan, P. R.	-	-	452	18	452	18
Savannah, Ga.	-	-	548	24	548	24
Seattle, Wash.	-	-	49,024	2,565	49,024	2,565
Tampa, Fla.	-	-	1,520	78	1,520	78
TOTAL	1,782	104	281,429	13,398	283,211	13,502

(1) Less than 1/2 unit.

Source: E. T. Sheridan, "Peat", Bureau of Mines Minerals Yearbook, U.S. Department of the Interior, 1970.

274,000 tons in 1971 yielded just over \$13 million.

B. Canada

The Canadian and Alberta peat industry has been highly geared to the foreign markets particularly that of the U.S., for a number of years. The 1971 Canadian production of 326,000 tons included exports of 274,500 tons virtually all of which went to American markets (see Table 12).

Alberta producers' ship most of their peat to California using trucks. These exports generate close to half a million dollars a year. In 1970, of the 10,000 tons produced, Alberta exported 6,780, according to calculations made by the Alberta Bureau of Statistics (see Table 13). In recent years exports have been generating between \$12 million and \$13 million per year for the Canadian economy.

C. Japan

Peat bogs in Japan's northern island, Hokkaido, cover an area of 780 square miles. Very few production figures for the Japanese industry are available, but the following section is based on information provided by the Alberta Government Office in Tokyo and from figures provided by the United States Bureau of Mines.

Peat moss in Japan is not widely known at this time and the demand is small, although increasing gradually. The present demand is about 15,000 short tons per year. It has been used mainly as a soil conditioner and in the manufacture of whiskey, and more recently for horticultural purposes. The market is limited by the availability of a wide range of lower priced competitive soil conditioners. The Japanese government and industry are now researching

TABLE 12

CANADIAN EXPORTS OF PEAT MOSS BY COUNTRIES 1967 TO 1971

<u>1971</u>	<u>QUANTITY</u> (Tons)	<u>VALUE</u> \$, 000
Hong Kong	12	1
U. S.	246, 000	10, 884
TOTAL	<u>246, 012</u>	<u>10, 885</u>
<u>1968</u>		
Denmark	180	38
Hong Kong	8	1
U. S.	254, 320	11, 406
TOTAL	<u>254, 508</u>	<u>11, 445</u>
<u>1969</u>		
U. S.	280, 420	12, 323
TOTAL	<u>280, 420</u>	<u>12, 323</u>
<u>1970</u>		
Hong Kong	57	3
Bahamas	20	1
U. S.	269, 095	12, 117
TOTAL	<u>269, 172</u>	<u>12, 121</u>
<u>1971</u>		
Japan	25	2
Bahamas	24	1
Bermuda	100	8
U. S.	279, 895	13, 052
TOTAL	<u>280, 044</u>	<u>13, 063</u>

Source: Statistics Canada, "Exports By Commodity", Annual.

TABLE 13

EXPORTS OF PEAT MOSS FROM THE WESTERN PROVINCES, 1970

	<u>QUANTITY</u> (tons)	<u>VALUE</u> \$, 000
Manitoba	12,335	594,949
Saskatchewan	735	50,496
Alberta	6,780	359,974
British Columbia	49,910	2,457,576
TOTAL	<u>69,760</u>	<u>3,462,995</u>

Source: Alberta Bureau of Statistics, Exports by Western
Provinces and British Columbia, 1970.

the utilization of wastes from factories as soil conditioner. Few farmers are familiar with the use of peat moss.

Several firms are producing peat moss on the island of Hokkaido and rough estimates place the production in the range of 10,000 to 15,000 short tons per year. Although domestic products are inferior in quality to foreign peat, demand for them is increasing in the wake of an aggressive sales campaign.

The leading importer in Japan is affiliated with a Danish company which manufactures peat pots. In 1970 imports from Denmark were estimated at 217 short tons compared with 117 short tons the year before. Other imports in 1970 came from the United Kingdom, (138 short tons); Finland, (106 short tons); and Norway (86 short tons) for a total of 547 short tons. Imports of peat moss from other countries such as the U.S.S.R., U.S.A., and Canada are limited now because the domestic market is small. In 1971, for the first time, 25 short tons, worth \$2,000, were imported from Canada.

Even though the demand for peat moss is growing rapidly around the world, imported products from North America have difficulty competing because of their high transportation costs in comparison with European products. If the price could be reduced the market for imported peat would be substantially improved as the demand for soil conditioners in Japan is large.

IV. MARKETING ALBERTA PEAT

Alberta's peat producers have developed a marketable commodity and have captured a share of the lucrative American market. If further sizeable expansions are to be realized, some modifications may be necessary in the marketing, promotion, and distribution of the product. A trade association of peat producers may be able to distribute and market the product more effectively.

The advantage of having large producing firms is apparent. In much of the U.S., sphagnum producers tend to be small and unorganized, serving only local and regional markets. Canadian exporters, on the other hand, have effectively reached U.S. markets located in close proximity to their operations, on both the east and west coast. As with any product, it is imperative to develop brand name acceptance and consumer loyalty at the retail level. One method of achieving this is through a highly effective distribution system and co-operative advertising.

A. The Product

The product advantage of sphagnum lies with its compressibility. Other varieties such as reed-sedge are not very compressible. Therefore, sphagnum is a lightweight bulky product when loose and has greater coverage than other varieties. The development of vinyl packaging has streamlined the packaging of peat since these containers maintain the quality of the product and minimize any loss or spoilage in transport.

The sphagnum package must be attractive to the potential consumer and specify its composition and coverage capability along with the expected results. That is, it must provide a description of the products' properties and reasons for using it. Peat producers should attempt market segmentation based on the end user.

B. Distribution and Transportation

Since peat is a low value product, transportation charges represent a substantial part of the total value of the product delivered to the consumer. This is especially true of exports. For example, transportation charges represent about 40 per cent of the cost of West German peat to the consumer. On Canadian peat shipped to the U.S., transportation costs represent about one-third of the cost to the consumer. Freight charges on peat imported into the U.S. from Europe are on a value basis, while Canadian peat charges are computed on a weight basis. No duty or taxes are levied on peat imported into the U.S. for agricultural and horticultural purposes.

In the U.S., peat is sold through a conventional marketing and distribution structure, with each producer retaining one or more persons in a sales capacity. These people work with and through brokers or manufacturers' representatives in their contacts with buying offices of chains, distributors and large professional users. Recently, distributors have suffered because producers have by-passed this link in the marketing chain. To counter this many distributors have developed their own private labels for marketing exclusively in their trade area. Predictably this has led to a proliferation of private labels. Individually they do not generate enough

revenue to support any advertising, so peat tends to be sold on the basis of price alone.

The Rocky Mountain region of the U.S. has already been referred to as a potential market area for Alberta peat, therefore reductions in railway freight rates should be pursued vigorously to assist in capturing such markets. The aim should be to charge a consistent price in all markets and utilize the higher profits on short hauls to subsidize the transportation costs of distant markets. A summary of freight rates follows in Table 14.

C. Advertising

Alberta producers might follow the example of Michigan peat producers. They have promoted an identifiable product which only they can supply. Over the years, consistent quality, good packaging and reliable deliveries have enabled these producers to obtain the premium price which in turn has supported an advertising campaign. Effective promotion of Alberta peat could be based on its physical properties, its weight to volume ratio, and its advantages over reed-sedge. If its coverage properties were stressed, the advantage of the package contents should be apparent.

D. Product Development

While breaking into new markets could be a feasible venture for peat producers, another area worthy of consideration is new product development. A firm in Norway developed and marketed peat pots and has been very successful in exporting them, even to Canada. One Alberta producer has received an inquiry from an American firm that is going to produce peat pots and will need about 10 tons of peat per day. The Norwegian firm has protected its product with patents, but the American firm has presumably researched and developed a new product without infringing on existing

TABLE 14

PRESENT RATES ON PEAT MOSS, CARLOADS
(Rates in Cents per 100 Pounds)

From: Alberta Origins (i. e. Alpen)

To:	<u>RATE</u>	<u>MINIMUM SHIPMENT WEIGHT</u> (000 lbs.)
Seattle, Wash.	151	60
Portland, Ore.	167	60
San Francisco, Calif.	205	60
Los Angeles, Calif.	244	60
Great Falls, Mont.	278	35
New Orleans, La.	287	60
Denver, Colo.	220	34-45
Sioux Falls, S.D.	175	34-45
Sioux City, Ia.	180	34-45
Omaha, Neb.	189	34-45
Wichita, Kan.	213	34-45
Topeka, Kan.	207	34-45
Kansas City, Kan.	202	34-45
Minneapolis, Minn.	176	34-45
St. Paul, Minn.	176	34-45
Chicago, Ill.	209	34-45
St. Louis, Mo.	220	34-45
Albuquerque, N.M.	282	60
El Paso, Tex.	289	60
Austin, Tex.	279	60
Houston, Tex.	282	60
Dallas, Tex.	269	60
Fort Worth, Tex.	269	60
San Antonio, Tex.	284	60
Amarillo	264	60
Oklahoma City, Okla.	246	60
Tulsa, Okla.	245	60
Little Rock, Ark.	266	60
Vancouver, B.C.	189	60
Calgary, Alta.	85	60
Saskatoon, Sask.	117	24
Winnipeg, Man.	195	24
Totonto, Ont.	540	24
Montreal, Que.	540	24

Source: Transport Research and Development Division,
Edmonton, Alberta.

patents. The development of new products here could be a viable alternative for Alberta's producers.

A comparatively recent application of peat moss is in the cleanup of major oil spills. Shipments of peat have recently left Alberta for locations in the Northwest Territories where oil leaks have occurred. In fact, suggestions have been made to stockpile the material wherever the danger of oil spills is present. Producers could take the initiative here by approaching major oil companies and governments.

A recent development in the peat moss industry in Canada is the formation of Tourcomo Ltee. in Montreal which is planning to make a major thrust into the U.S. and Canadian markets with new and diversified methods and products. The company recently acquired rights to 8,000 acres of bog containing over eight million tons of sphagnum peat. This area is located on the north shore of the St. Lawrence River, beyond Quebec City, near the town of Baie Comeau. The company has taken advantage of research underway at the University of Sherbrooke, and has carried out extensive market surveys. The potential demand in the southeastern U.S. is placed at 500,000 bags per year.

An initial processing plant will be in operation at Baie Comeau in 1973 with drying, storage and bagging facilities capable of handling 900,000 bags per year. In addition to using peat as a soil conditioner the Tourcomo literature discusses its use as an oil absorbent, as a filtering agent for textile effluent, as a binder for ore concentrate pellet and as a soundproof construction material called peatcrete. This is an example of the approach one company is taking to develop and market peat moss in Canada and elsewhere. The success of this venture is yet to be demonstrated, but careful

consideration by other producers may be warranted to determine if this approach would be beneficial to the industry at this time.

E. Outlook

As a natural resource, peat moss is widely distributed throughout the world and can be exploited with a minimum of equipment and expense. The one area where continued growth in peat production and utilization can be expected world wide is in agricultural and horticultural applications. As world population increases and food requirements rise, the growing of fruits, vegetables, and cereal crops will require tremendous quantities of soil nutrients and conditioners.

The U.S. demand for peat in the year 2000 has been estimated by the U.S. Bureau of Mines, using 1968 consumption as a base. The range of demand estimated was from 1.2 to 2.4 million short tons with the median 1.8 million short tons. For the rest of the world (outside the U.S.) the range was from 300 to 400 million short tons with the median at 350 million. Based on constant 1968 dollars the estimated value of peat demand (domestic and imports) would range between \$25 and \$50 million. Population was the indicator used to forecast demand since the major market is the individual home owner. Contingency factors such as increases in per capita consumption, changes in population growth, and shifts in population from cities to the suburbs were included.

In recent years about one-half of the total U.S. demand was supplied by domestic production with the remainder coming from imports. In projecting demand to 2000 it was assumed that about 70 per cent of the demand at that time would be supplied by domestic producers.

Demand in the rest of the world is expected to increase at about the same rate as in the U.S. according to the U.S. Bureau of Mines. Future consumption in the rest of the world will be determined by the extent to which peat will be used in the U.S.S.R. as a power plant fuel and for agricultural purposes.

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